

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "adapted to" in claims 1, 2 and 4 is unclear, which render the claims vague and indefinite. The phrase "adapted to" is not a positive limitation on the claim. The article only has to be capable of being re-inflated.

The phrase "said pad further comprising said entry/exit portal tube passageway" in claims 1 and 4 is unclear, which render the claims vague and indefinite. It is unclear from the claim language if there are two separate and distinct entry/exit portals, or if there is only one portal wherein the portal is configured to permit re-inflating.

Correction/clarification is required.

Ms. Nordmeyer, I hope I answered this request for clarification correctly. I removed the phrase "adapted to" from claims 1, 2, and 4. I also removed the phrase "said pad further comprising said entry/exit portal tube passageway" that repeated itself in claim 1 and 4.

In an effort to clarify my specific invention, I took the text "each said zone may be further broken down into a plurality of inflatable chambers, wherein said chambers are conical shaped providing a high volume profile" with added zoned impact security From my Summary of Invention page 4 line 21 that identified the conical shape or similar triangular shape required to obtain the high volume from our pad design.



(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Jaszai (USPN 5,826,723).

Jaszai discloses two flexible wall members, film (Column 12, lines 7-10), placed next to each other and sealed together through heat-sealing along the perimeters and through the internal area making two separate inflatable areas (Column 4, lines 1-7 and Figure 20, #14) which form an impact resistant wrapping, packing, system (Column 3, line 63). The wrapping system contains an intake tap for each of the separated inflatable areas (Column 7, lines 36-38 and Figure 20, #3). Each area is inflated or deflated independently through intake and exhaust taps located in the perimeter of the article (Figure 20, #3 and 5), allowing the wrapping system to be reused (Column 2, lines 22-25). The areas have also been adapted to redistribute the air through the formed chambers when pressure has been applied to the chambers (Column 7, lines 41-47).

Ms. Nordmeyer, I reviewed Mr. Jaszai patent you provided, two flexible wall members, film (Column 12, lines 7-10). Line 7 of column 12 is the beginning of Mr. Jaszai Claim 11 which began "The impact wrapping system of claim 9, "The words or similar words "two flexible wall members, film" appears to be a common way to describe the containment of most inflatable related inventions. Mr. Magid patent inflatable Articles and Method of Making Same, uses the following Claim 2 column 7 line 14 "said inflatable unit is comprised of two sheets of thermoplastic materials located with one on top of the other having coinciding inner and outer portions, with seals at and within said outer portions," Mr. Soroka in his patent Inflatable Packing Structure uses similar language in his claim 2 column 4 line 4 "wherein the first and second inflatable layers each comprise two superposed portions of flexible sheet plastic materials."

I wasn't sure how to fix the line in my claims 1 and 4 "said first and second film layers being secured together along an outer perimeter thereof to define an inner volume within said pad and", I was trying to identify my invention as being part of this formation of these two layers of film. I hope that the next line with the clarification of the conical chambers developed by these two films will help make



this claim and claim 4 acceptable. These are the corrected lines for claims 1 and 4: said first and said second film layers within said inner volume in a location selected to form at least two separate zones within said inner pad volume, and each said zone may be further broken down into a plurality of inflatable chambers, wherein said chambers are conical shaped providing a high volume profile with added zoned impact security

The line , placed next to each other and sealed together through heat-sealing along the perimeters and through the internal area making two separate inflatable areas (Column 4, lines 1-7 and figure 20,#14) This line was not a claim of Mr. Jaszai but was from a line in his Detailed Description of The Preferred Embodiments. Column 4 lines 1-7 “ As shown in Fig 1, a sheet like wrapping body 1 in this embodiment is formed by putting two rectangular flexible wall members 11 and 12 one on top of the other and sealing, with an adhesive or by thermal welding, the four peripheral sides and portions which are parallel to two of the aforesaid four sides and spaced at regular intervals to hereby form seal portions 13. Column 4 lines 7-9 does direct a difference to shape “ Thus, there are definitely partitioned rectangular wall chambers 14 among the seal portions 13 between the flexible wall members 11 and 12.

In this portion of the office action I felt you were directing my attention to fact that the edges of the film heat-sealed along the perimeters and through internal areas making two separate inflatable areas.. Here I hope I took your direction properly by clarifying my claims with the conical shape , I reviewed Mr. Jaszai fig 20,# 13 and 14 and he identifies a unique pattern to his internal shapes. Column 7 line 32-36 “ the seal portion 13 for dividing the inner space of the sheet like wrapping body 1 into two wall chambers 14 is arranged in a continuous zigzag. Each wall chamber 14 elongated in zigzag is subdivided into generally U-shaped compartments by intermediary taps 9.” Suggesting as you identified that shape was important to his invention as it is to mine, that without the cone or triangular shape my invention could not provide a higher volume profile to improve impact protection. It did occur to me based on the inventions you provided for my review, that there as several very basic difference from my invention’s intended use and its design. Mr. Jaszai identifies his invention as a wrapping system, Mr. Soroka also speaks about his invention as an envelop wrapping around and article to be shipped, and Mr. Magid does not refer to or claim that his invention can be used in any manner to act as a item wrap for shipping like Mr. Jaszai and Mr. Soroka, or in the case of my invention non of the reviewed inventions suggest or refer to my inventions intended use to be an alternative to void fill. Our pads are meant be placed between an object and the container, each pad is not designed to wrap around a product but to take the place of void fill, such as paper and shipping beans , and hold secure an article that maybe wrapped with bubble wrap or Mr. Jaszai and Mr. Soroka’s inventions, not to replace them. There are some inflatable pillows that are being used for light duty void fill today, but a single rupture will deflate them and they are not reusable from a deflated state. Our invention was designed to fill this needed area in inflatable void fill that has an added value of at least two zone protection and they are reusable from a deflated state.

Another significant difference between Mr. Jaszai, Mr Soroka and Mr. Magid inventions and mine is that each of them have a valve, some have one way valves, some have snap



lock valves. My invention has no valves, my pads are meant be inflated as they are formed from sheet film and placed in shipping boxes as they are needed. When they arrive at the end user they could be reused in this inflated state or they can be simply deflated by snipping the end of the portal tube, there are no valves just a tube if the pad is to be reused after deflation, but the tube is not required for initial inflation.

I noticed the difference you were pointing out in the office summary " The wrapping system contains an intake tap for each of the separate inflatable areas (Column 7, lines 36-38 and fig 20,#3) Each area is inflated or deflated independently through intake and exhaust taps located in the perimeter of the article (Fig 20, #3 and #5), allowing the wrapping system to be reused (Column 2, line 22-25). Since my invention need no vales to be inflated and is intended to be inflated as the pad is formed from sheet material are portals are merely extensions of the upper and lower film. Mr. Jaszai invention requires a separate intake and exhaust tap, because air moves in one direction in his wrapping system, he has several interior one way vales that are intended to protect zones from leaking if a near by chamber is punctured. But this design with one way valves in interior chamber reduced the pads ability to transfer air under pressure to a connecting chamber, because once air move across the one way valve it will not move back and could actually be the cause of his wrapping system failing when a package is taking repeated impact through shipping. The basic difference is my invention has no one-way interior vales, air is allowed to move back and forth through connected conical chambers. My invention does not require a separate intake and exhaust tap. I have a tube that can be cut if you want to store our pad deflated and the same tube will be the inflate tube when you want to reuse our pad. As I review each of the other inventions they are meant to wrap an article, so you would probably use just one per package, our invention is designed for void fill and you would use several of our pads to every shipping box.

In the statement "The areas have also been adopted to redistribute the air through the formed chambers when pressure has been applied to the chambers (Column 7, lines 41-47)" In this statement I though you were drawing my attention to the difference in the way my invention distributes air that is being compressed by an impact in shipping from one conical chamber to a connected conical chamber, and Mr. Jaszai 's wrapping pad does not as noted in Column 7 line 41-47 " According to this embodiment, the gas 10 filled in the wrapping body can be discharged by pressing the inflated wall chambers 14 without using the exhaust pipe 6 as described above. The intermediary taps 9 in this embodiment have the function of the exhaust tap5." So Mr. Jaszai 's wrapping pad does not redistribute air but can discharge air when you compress a chamber indicating air will not move back into a discharged chamber. As I noted above, our invention does redistribute air when a shipping impact presses on a single conical shaped air chamber and that air will move back when the impact pressure is reduced.

I hope I covered all the areas you define in the appropriate way and that my answers were correct and have clarified my claims so that you may accept them. Please if I have not done this correctly. Please call me at 802-775-5242 so that I can correct my writing to be acceptable.



Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Application/Control Number: 09/911,949

Page 4

Art Unit: 1772

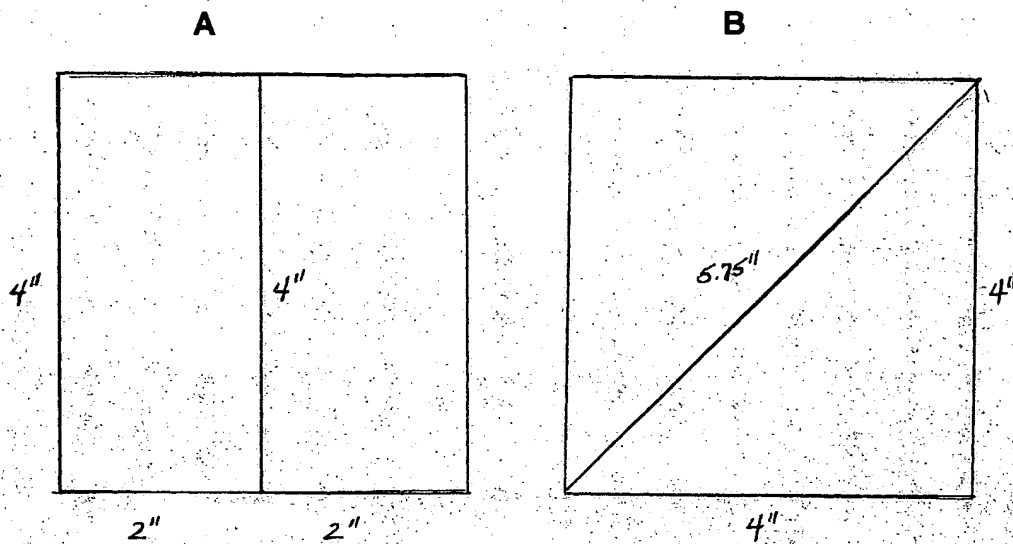
Jaszai discloses the claimed wrapping system above including the chambers maximizing available pad surface (Figure 20, #14); however, Jaszai fails to disclose the chambers being substantially conical in shape.

I hope I have made Claim 3 acceptable ,

3. The system of claim 2 , wherein said conical shaped chambers maximize pad height for impact protection, said pad height respective of available chamber height determined by base width of conical chambers provided.

I reviewed your suggested section (Column 7 lines 33-35, FIG 20,#14)" into two wall chambers 14 is arranged in a continuous zigzag. Each wall chamber 14 elongated in zigzag is subdivided into generally U-shaped compartments by intermediary taps 9." a did note that Mr. Jaszai did describe a specific shape of each compartment as U shaped and that the subdivision was created by a zigzag design format. That allow me to understand that our compartments were cone or triangle shape and that we had a specific triangle or cone pattern to develop our subdivision of our pads. And that a cone shape would not work with Mr. Jaszai's format because our cone or triangle designs have a base end on one pad perimeter and the top end of the cone or triangle at the opposite perimeter . Cone shape chambers allow our pad to present a higher profile, because pad height is determine by the smallest chamber dimension.





The sketch above will hopefully help illustrate the statement that a chamber height is determined by its smallest dimension. A and B represent a four inch square, consider then inflatable pads. When we divide pad A in half using a rectangle chamber like Mr. Jaszai's wrapping pad the smallest dimension is 2 inches, but when you use a cone shape or triangle shape similar to pad B like our pad the smallest dimension is 4 inches. The cone shape does make a significant difference in obtaining a higher pad profile providing a void fill pad with greater impact protection and requiring less void fill pads to pack like shipping boxes using lower profile pads.

Ms. Nordmeyer, will that example be sufficient to allow me to use shape as an important part of my invention?

A. Russo

Art Unit: 1772

One skilled in the art would have been motivated to do so in order to use the entire inflatable space formed when the two pieces are sealed together.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magid (USPN 4,629,433).

Magid discloses a central wall member made from film (Column 4, lines 52 – 54), where individual sheets of plastic are placed next to each other and sealed to the central layer (Column 4, lines 54 – 56), forming a first layer through heat-sealing along the perimeters (Column 4, lines 30 – 33) making separate inflatable areas (Figure 4, #22 and Column 4, lines 54 – 56) which form an impact resistant wrapping, packing, system. The inflatable article contains an intake tap for each of the separated inflatable areas (Column 4, line 56 and Figure 4, #23). Each area is inflated or deflated independently through intake and exhaust taps located in the perimeter of the article (Figure 4, #23), allowing the wrapping system to be reused (Column 6, lines 60 – 65). However, Magid fails to disclose a second layer on the opposite side of the central layer to form at least four separate areas within the inner pad volume.

Magid discloses the claimed invention except for a second layer on the opposite of the first layer which formed separate areas on the pad surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place individual sheets of plastic material on the opposite side of the central layer which are sealed to the central layer to form inflatable areas having their own valve control on the surface of the article, since it has

I must admit that Claim 4 being unpatentable over Magid I am a little confused with. I would like to go through it step by step if that is OK with you.

From the office summary “ Magid discloses a central wall member made from film (Column 4, lines 52-54) where individual sheets of plastic are placed next to each other



and sealed to the central layer (Column 4, lines 54-56), " When I reviewed Column 4 , lines 52-56 " A fourth type of basic inflatable is shown in Fig.4 which comprises a single sheet of thermoplastic material 20 to which is attached individual sheets of thermoplastic materials forming individual inflatable units 22 each having its own inflating valves 23 thereon." I did not see any reference to a central wall member made from film. I took your direction to point out the significant difference between Magrid and my invention.

Magrid has a single sheet of thermoplastic material 20 to which is attached individual sheets of thermoplastic materials forming individual inflatable units 22. These are not zoned pads that share air moving from one chamber to another, 22 represents individual columns of air with separate valves, once punctured each chamber deflates and pad integrity is reduced. Magrid states column 4 line 57 -60 " The purpose of these types of basic inflatables is to provide the opportunity to use materials of different colors, thicknesses, firmness etc. as may be required by the inflatable article." It appears Magrid was considering an inflatable item, not an impact resistant wrapping, packing system. I could find no reference by Magrid or claim of an impact resistant wrapping packing system, in fact he references articles like swimming aids Fig 14 column 4 line 14, and inflatable lamp shades Fig 15 column 4 line 16. I attached a copy of Column 4 of Magrid on the next page, so that you might understand my review questions. And if in fact Magrid was an impact resistant wrapping it would fall into the same category as Jaszai and Soroka developed to wrap around an article not to act as void fill where I believe my invention can offer improvement.

Office summary statement " The inflatable article contains an intake tap for each of the separated inflatable areas (Columns 4, line 56 and figure 4,#23) This is a significant difference to my invention in that there are no individual intake taps that each zone controls a complete side of a pad and the air moves freely through all connected cone shaped air chambers in a zone. That my invention is designed to be filled with air when constructed and can be reused in the same state, and only if you want to deflate our pad to store reuse is simply blowing through a portal tube that fills all zones and all chambers in one action and by simply folding the portal tube and tucking it under a small retaining film, air remains in the pad providing impact protection with multiple zones each with connected chambers that redistribute impact compressed air.

Office summary statement "Each area is inflated or deflated independently through intake and exhaust taps located in the perimeter of the article (Figure 4,#23). Here again I thought you were pointing out the deference between my invention with no need for intake taps, my invention was designed to be made from the film layer, there are no additional valves or taps one run through a film press with my design will create a complete operating high volume void fill unit. This would keep the cost down add allow it to be an alternative to void fill that can not be reused.

Office summary statement " allowing the wrapping system to be reused (Column 6, lines 60-65" " Although the present invention has been described hereinbefore by way of preferred embodiments, it should be understood that various changes or modifications are still possible by those skilled in the art without departing from the spirit and scope of the present invention." I understand the spirit and scope to be inflatable articles such as swimming aids and lamp shades and the like. And that its chambers don't act as zones but separate chambers making their use as void fill expensive and unable to compete with current void fill methods.



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FIG. 7

FIG. 9 is a perspective view of another embodiment of the basic inflatable having opening and ruffles at the selected inner portion to be stabilized;

FIG. 10 is a perspective view of the parallel joining of the inflatable article of the present invention;

FIGS. 11a, 11b and 11c are perspective views of a series of in-line joinings of the inflatable article of the present invention;

FIG. 12 is a sectional view of the tubular joining of the present invention;

FIG. 13 shows a perspective view of the inflatable article of the present invention having holes provided thereon for joining to another article or component;

FIG. 14 is a perspective view of a swimming aid formed by using the method and article of the present invention;

FIG. 15 is a perspective view of a lamp with a lamp shade embodiment made by using the method and article of the present invention;

FIG. 16 shows an inflated state of an inflatable article which has been stabilized along the direction parallel to the centerline according to the present invention; and

FIG. 17 show an deflated state of an inflated article as shown in FIG. 16.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 1 to 4 which show four types of basic inflatables according to the present invention, a basic inflatable 10 of the first type shown in FIG. 1 is made of two sheets of air impervious thermoplastic sheet materials heat sealed together with a plurality of vertical bar seals 11 within the outer portions and an inflating valve 12 provided on one of said two sheet materials for injecting air into the basic inflatable 10. Since the bar seals 11 do not touch the seals at the outer portions 14, air contained therein can pass between the inflatable spaces 13 formed by the bar seals 11.

A second type of the basic inflatable is shown in FIG. 2 wherein the bar seals 14 extend to and touch the seals at the outer portions forming a number of individual inflatable unites 15 each having a valve 16.

FIG. 3 shows a third type of the basic inflatable which comprises a plurality of individual inflatable units 17 each having an inflating valve 18 provided thereon. Said units 17 are joined by their overlapped outer portion 19 to form a basic inflatable. The outer portions 19 of two adjacent inflatable units may be joined with an edge parallel joining as shown in FIG. 3a or a butt parallel joining as shown in FIG. 3b.

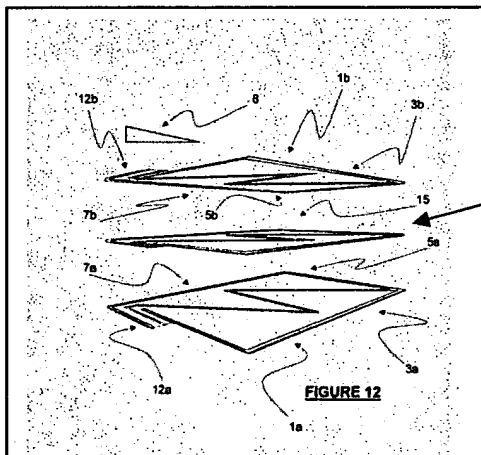
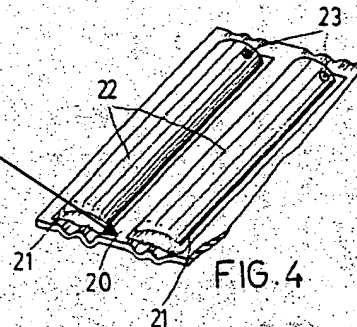
A fourth type of the basic inflatable is shown in FIG. 4 which comprises a single sheet of thermoplastic material 20 to which is attached individual sheets of thermoplastic materials forming individual inflatable units 22 each having its own inflating valve 23 thereon.

The purpose of these types of basic inflatables is to provide the opportunity to use materials of different colors, thicknesses, firmness etc. as may be required by the inflatable article.

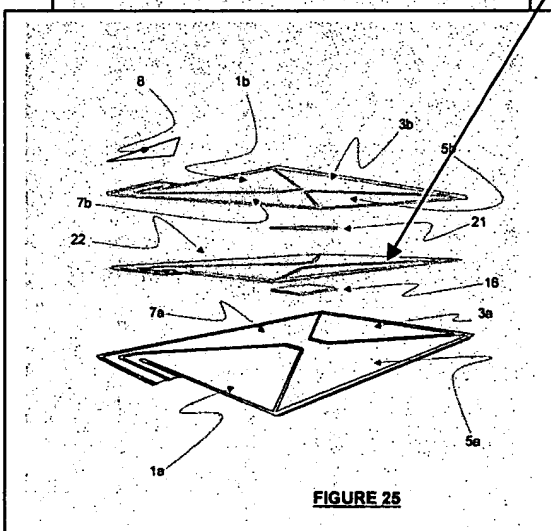
Referring to FIG. 5 which shows a perspective view of a basic inflatable, two sheets of thermoplastic material 24, 25 are placed with one on top of the other and have seals 26 at the outer portions 27 and a plurality of parallel flat bar seals 28 within the outer portions 27. The basic inflatable has an inflating valve 29 located on the top sheet 25 for injecting air into the space between said two sheets 24 and 25. The lateral centerline is CL 1.

Magrid's central film 20 mentioned is a single film that separate chambers 22 are attached to, each with a separate valve 23.

Each chamber would need to be inflated and deflated independent of all others, defeating the purpose of air being able to move to another chamber in a zone when impact occurs. Chambers under impact pressure may simply bust causing the package to move possibly impacting other chambers destroying the integrity of the packing system



My central film is actually a complete third film layer the same size as both outer layer films positioned in between the two outer film layers, creating four separate zones , two zones above the central layer and two zones below the central layer. Creating an even more impact resistant pad because now an impact on a zone is cushioned by the separate zone below, spreading the force of the impact over several other zones. It is still designed to be filled when constructed and can be reused in that state. Or can be deflated by cutting open the portal tube and reused at a later time by simply blowing on the portal tube that fills all zones and all chambers in one action.



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Claims

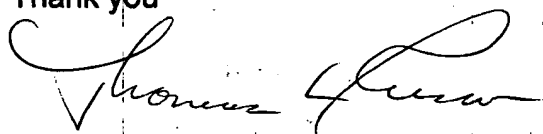
What is claimed is:

- 5
1. An impact- resistant inflatable reusable two zoned packing pad for protecting articles during shipping from shock and damage, said packing pad comprising first and second outer film layers, said first and second film layers being secured together along an outer perimeter thereof to define an inner volume within said pad and,
- 10
- said first and said second film layers within said inner volume in a location selected to form at least two separate zones within said inner pad volume, and each said zone may be further broken down into a plurality of inflatable chambers, wherein said chambers are conical shaped providing a high volume profile with added zoned impact security said pad further comprising at least one entry/exit portal tube passageway for each separate zone within said pad to permit repeated independent inflation and deflation of each said zone.
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2. The system of claim 1, wherein each said zone is comprised of a plurality of inflatable conical shaped chambers configured to redistribute an inflation gas contained therein from one or more conical shaped chambers compressed by and external impact to at least one contiguous conical shaped chamber which is not impacted.
- 20
3. The system of claim 2 , wherein said conical shaped chambers maximize pad height for impact protection, said pad height respective of available chamber height, determined by base width of conical chambers provided.
- 25

Clean Version of Claims

Please accept these revisions if they will help clarify my invention application claims.

Thank you

A handwritten signature in cursive script, appearing to read "Thomas L. Russo".

Thomas L Russo

Date

1/27/03

4. An impact- resistant inflatable reusable four zoned packing pad for protecting articles during shipping from shock and damage, said packing pad comprising first and second outer film layers with a complete central film layer, said first and second film layers being secured to the central film layer along an outer perimeter thereof to define an inner volume within said pad and , said first and said second film layers within said inner volume in a location selected to form at least four separate zones within said inner pad volume, and each said zone may be further broken down into a plurality of inflatable chambers, wherein said chambers are conical shaped providing a high volume profile with added zoned impact security said pad further comprising at least one entry/exit portal tube passageway for each separate zone within said pad to permit repeated independent inflation and deflation of each said zone.

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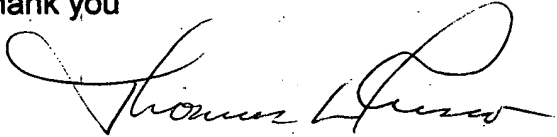
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Clean Version of Claims

Please accept these revisions if they will help clarify my invention application claims.

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Thomas L Russo

Date

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